

THE GENERIC POSITION OF *ANNESORHIZA* *FILICAULIS* ECKL. & ZEYH. (*APIACEAE*)

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A study of the fruit structure of *Annesorhiza filicaulis* Eckl. & Zeyh. has shown that only the four commissural ribs are expanded, resulting in a fruit wing configuration characteristic of the genus *Peucedanum*. Hysteranthous or seasonal leaves, as present in *A. filicaulis*, are not unique to *Annesorhiza* but are also encountered in *Chamarea* Eckl. & Zeyh. and in *Peucedanum sulcatum* Sond. and related species. The correct generic delimitation of *Peucedanum* (one or several genera) is one of the last challenges in the alpha taxonomy of southern African *Apiaceae*, and *A. filicaulis* complicates the matter even further. Nevertheless, *A. filicaulis* is clearly a misfit in *Annesorhiza* and should be included in future studies of *Peucedanum* sensu lato, even though the latter may prove not to be monophyletic. *Annesorhiza filicaulis* is formally transferred to *Peucedanum*, and the correct nomenclature, typification and known geographical distribution of this poorly known species is presented.

Keywords. *Annesorhiza*, fruit structure, new combination, *Peucedanum*.

INTRODUCTION

As part of ongoing studies of African *Apiaceae*, a revision of the genus *Annesorhiza* Cham. & Schlechtd. has been completed (Tilney & Van Wyk, 2001). Twelve species are recognized, but *A. filicaulis* Eckl. & Zeyh. is excluded because its fruits have the diagnostic wing features of *Peucedanum* rather than of *Annesorhiza*. The purpose of this short paper is to record the available, albeit scant, information on *A. filicaulis*, to formally transfer the species to *Peucedanum* and to show that the commissural wings of the fruit and the sheathing, bladeless cauline leaves support the proposed generic affinity of the species.

RESULTS AND DISCUSSION

Annesorhiza filicaulis is known from only two collections, one by Ecklon and Zeyher and the other more recently by H.C. Taylor, during field-work for a checklist of the Cederberg (Taylor, 1996). Both specimens were collected in the fruiting stage and are totally leafless, showing that the species has hysteranthous leaves or that the flowers and leaves may be contemporaneous but that the leaves wither before the fruits mature. The fruits are narrowly oblong and have a wing configuration unlike that of any other species of *Annesorhiza* (Van Wyk & Tilney, 1994). A comparison of two mericarps in transverse section, one from Ecklon & Zeyher 2216, and the

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other from *Taylor* 11492, is shown in Fig. 1. Note that the commissural ribs are expanded to form wings (typical of *Peucedanum* and many other genera of *Apioideae*), while none of the other petaline or sepaline ribs are expanded.

There are different views on the generic delimitation in *Peucedanum* s.l. Pimenov & Leonov (1993) suggested that the generic concept of *Peucedanum* may best be restricted to the section *Peucedanum* (which comprises 8–10 species, including the type species), while the remainder (about 100 species) be subdivided into several genera. Burt (1991) also referred to the complicated '*Peucedanum* problem' in Africa. The transfer of *A. filicaulis* is not based on a broad and careful study that would enable complete elucidation of southern African *Peucedanum*. Such a study is beyond the scope of the present paper. Although *A. filicaulis* has hysteroanthous or seasonal leaves, it does not fit into *Annesorhiza* in so far as the fruit structure is concerned. The commissural ribs only are expanded into wings (Fig. 1), which is unlike the wing development in *Annesorhiza*, where all the sepaline ribs and the two

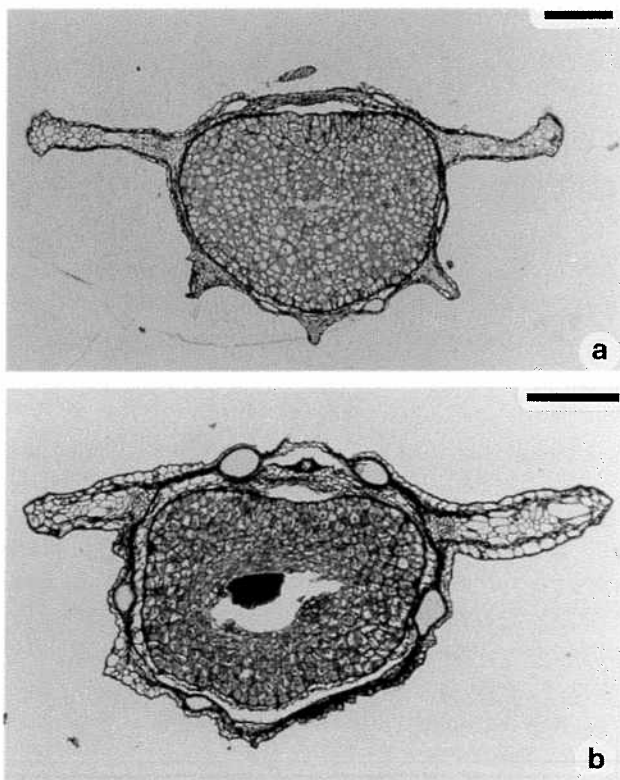


FIG. 1. Fruit structure in *Peucedanum* (*Annesorhiza*) *filicaule*: a, mericarp showing commissural wings and relatively well-developed dorsal and intermediate ribs (*Taylor* 11492); b, mericarp showing the large commissural and minute dorsal and intermediate ribs (*Ecklon & Zeyher* 2216). Scale bars = 0.25 mm.

petaline ribs are expanded into wings. Distinct wings are only associated with heteromorphic fruits in *Annesorhiza*; in this taxon the mericarps are homomorphic. The ribs and wings consist largely of cells with slightly lignified walls (Fig. 1). In the Taylor specimen, such lignified cells extend for varying distances between the ribs and form a continuous layer in the commissural area between the wings. The commissure is very narrow (as in *P. triternatum*) and there is no dorsal flattening of the mericarps and seed cavity as in typical southern African *Peucedanum* (Ostroumova & Pimenov, 1997).

It may eventually prove sensible to reinstate the genus *Cynorhiza* Eckl. & Zeyh. to accommodate the species with seasonal leaves presently residing in *Peucedanum*. It may also be sensible to describe *A. filicaulis* as a new monotypic genus, characterized by the narrow commissure and non-flattened mericarps. Such a step will only be possible after more complete material becomes available (especially leaves) and after a thorough study of overall patterns in *Peucedanum* and related genera in Africa and elsewhere. *Annesorhiza filicaulis* has the distinctive fruit wing configuration and sheathing, bladeless cauline leaves typical of *Peucedanum* and some closely allied but poorly known southern African species. We here transfer *A. filicaulis* to *Peucedanum* without prejudice as to its final generic placement within the *Peucedanum* complex.

***Peucedanum filicaule* (Eckl. & Zeyh.) Van Wyk & Tilney, comb. nov.**

Lectotype: Cape, Clanwilliam, sandy places near the Olifant's River, *Ecklon & Zeyher* 2216 (S!, lecto., designated here).

Syn.: *Annesorhiza filicaulis* Eckl. & Zeyh., Enum. 244 (1837), Sonder in Fl. Cap. 2: 545 (1862), Burt in Edinb. J. Bot. 48: 178 (1991).

Oenanthe filicaulis (Eckl. & Zeyh.) D. Dietr., Syn. Pl. 2: 953 (1840). Type as above.

The plant is an erect herb of 0.6–0.8m in height (in the original description of Ecklon and Zeyher, the height of the plant is given as 2–2.5 pollicaris, i.e. 5–7cm, instead of 2–2.5 pedalis), with a basal rosette of leaves (according to label information on *Taylor* 11492) and a long, slender, sparsely branched flowering and fruiting stem developing from a fibrous collar. The roots and leaves are unknown. The scapes have narrowly triangular to linear, strongly sheathing bladeless cauline leaves of up to 12mm long. The inflorescence is a compound umbel, with the main terminal umbel bearing about 6 rays, each umbellule with 5–12(–20) pedicels, and two sparse, minor umbels lower down on the scape. The involucler is inconspicuous, with about 6–20 minute, linear bracts of 1–1.5mm long. Flowers are unknown, but the young fruit show minute triangular calyx lobes, less than 0.2mm long, and a conical, tapering stylopodium with two erect styles. The fruits are narrowly oblong and somewhat falcate, 6–7mm long and up to 1.8mm wide (in dorsal view), with commissural wings of ± 0.6 mm broad. The vittae (one per vallecule, two on the commissure) are conspicuous as dark lines, contrasting with the straw-coloured fruit wings. The fruit

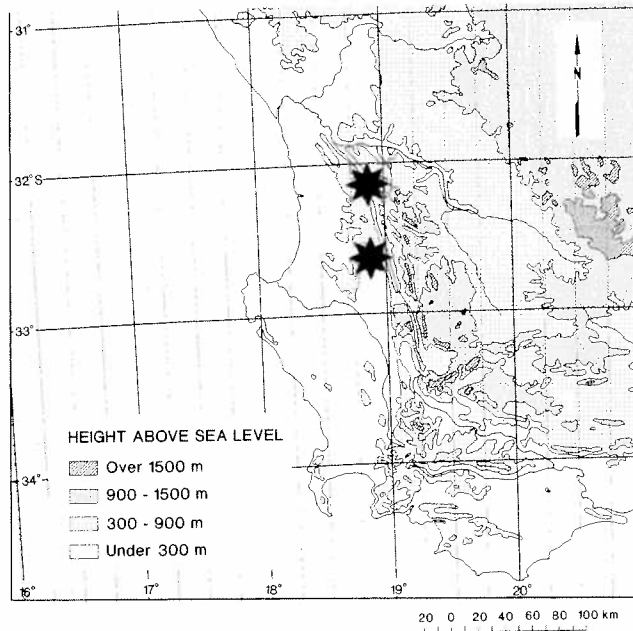


FIG. 2. The known geographical distribution of *Peucedanum filicaule* in the Western Cape Province of South Africa.

narrows abruptly towards the apex, so that it is slightly constricted below the stylopodium. Fruiting is known to occur in January (Ecklon & Zeyher 2216) or in March (Taylor 11492). The species appears to be very rare, and is known only from two localities in the Clanwilliam district (Fig. 2).

Specimens examined. 'Sandy places near the Olifant's River (Clanwilliam)' [3218DB], January, Ecklon & Zeyher 2216 sub Herb. Sond. (S); Clanwilliam district, 'path from Amonse Poort to Dwarsrivier in Boskloof' [3218DD], 4 iv 1986, Taylor 11492 sub STE (NBG).

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